

What is Global Warming?

Life on Earth

Planet Earth is spectacular! From hippos to hula dancers, there is no other planet in our solar system where huge trees, deep oceans, and different animals and people are found.

Life on Earth exists because of the sun, which is a big star that gives us light, heat and energy. Without the sun, plants wouldn't grow and the earth would be too cold for living things to survive. When the sun shines, its heat gets trapped in our **atmosphere**. The atmosphere is an invisible layer of gas that surrounds the earth like a blanket of air. If the atmosphere didn't trap heat from the sun, our entire planet would be covered with ice!

Greenhouse Gases

The gases in our atmosphere that trap heat from the sun are sometimes called **greenhouse gases**. These greenhouse gases absorb sunshine and heat from the sun. Some of the sun's energy goes back into space, but much of it remains trapped in our atmosphere by the greenhouse gases. This is how our planet stays warm enough for life on earth to survive.

Too Much of a Good Thing

As with many things, too much of a good thing can become a problem. Eating too much ice cream for example can make us sick. The same is true with greenhouse gases. Although they are needed to keep the planet warm, too many greenhouse gases in our atmosphere are now making the planet too warm. This is called **global warming**.

Fossil Fuels and Global Warming

Carbon dioxide is one of the greenhouse gases on our planet. While carbon dioxide is an important part of nature, too much of it is being put into the atmosphere by the burning of **fossil fuels**. These fuels—like gasoline, oil and coal—come from the fossils of plants and dinosaurs that lived on earth millions of years ago. We use these fuels to drive our cars, power our trucks, and fly our planes. We also use fossil fuels to heat our homes, create electricity, and run factories. The pollution that is made by burning fossil fuels is creating too much carbon dioxide, and this is not healthy for our planet.

Methane and Global Warming

Another gas that contributes to global warming is **methane**. Methane is produced when things break down, or **decompose**, without oxygen. Two major man-made sources of methane in the United States are **landfills**, or dumps where we bury our garbage, and large **animal farms** that raise animals for meat and dairy products that many of us eat.

Rainforests and Global Warming

Another way that too much carbon dioxide gets put into the atmosphere is when rainforests get cut or burned down. Rainforests are huge forests that are found

around the world. They contain more than half of all the world's animals and are home to some of the largest trees on the planet. They are also where many native tribes of people live. Trees—including those found in the rainforest—contain a lot of carbon in their branches and leaves. When the rainforest is cut or burned down, this carbon gets released into the air and becomes carbon dioxide, which causes global warming.

One way to help stop global warming is to protect the rainforests. When the rainforest trees are left standing, all that carbon stays within their leaves and branches and doesn't get released into the air as carbon dioxide. Not only that, but trees inhale carbon dioxide! That means that when trees are left standing, they absorb and remove carbon dioxide from the atmosphere, which helps cool our planet.

Climate Change

If the average temperature of the planet gets warmer and stays that way, it doesn't mean that coconut trees will start growing in Iceland! Instead, it means our normal weather patterns will change. That's why global warming is also called **climate change**. Climate is the normal weather pattern of a particular area. When the climate changes, it means that over time, the weather patterns change. For instance, global warming may bring about climate changes where hurricanes and tornadoes get stronger. Droughts may last longer, and floods may become more frequent. Simply put, global warming brings about serious changes in the weather. It's even starting to melt the ice at the North and South Poles!

Climate Justice

Climate change affects people all around the world. However, people living in poor and developing countries, especially small island states, will feel the biggest impacts. That's because if sea levels rise due to ice sheets melting in places like Antarctica, island nations may disappear under water! Since rich and developed countries like the United States are responsible for putting most of the greenhouse gases in the air, it's unfair that the poor countries will suffer the biggest problems from global warming.

What can we do to help?

1. **Use less gasoline.** Instead of driving in a car, walk or ride a bike, or take public transportation like buses and trains.
2. **Save energy.** Turn off the lights, the TV, and the computer when you're not using them. Put on a sweater instead of turning up the heat.
3. **Compost food scraps and recycle.** Reduce methane by sending less trash to the landfill.
4. **Eat less meat.** Eating more plant-based foods is good for your health, and it's good for our climate! The fewer animals we depend on for food, the less methane is released in the atmosphere.
5. **Protect forests worldwide.** Use less paper and wood products. Reuse what you can. Adopt rainforest acres to help save the trees that keep our planet cool.